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Aerial view of cobia harvest from open sea cage farms at Mandapam



हर कदम, हर उभार  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

*Agriculture with a human touch*

Indian Council of Agricultural Research  
**CENTRAL MARINE FISHERIES RESEARCH INSTITUTE**  
P.B. No. 1603, Ernakulam North P.O., Kochi - 682 018, Kerala, India

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## DIRECTOR SPEAKS



**E**mpowering the fishermen and fish farmers through proper guidance in sustainable fishing practices, extending technology support for appropriate culture technologies and species selection has always been the priority of this institute. Standardised seed production technologies have given a boost for sea farming activities and has enabled farmers to access good quality fish seed and fingerlings of high unit value fishes like cobia, silver pompano and orange spotted grouper. Access to markets and development of value chains is crucial for the producers to reap the benefits

of adopting new technologies and knowledge base extended by the scientific community. The recently hosted Kisan Mela and Buyer Seller Meet saw a huge footfall of visitors which is encouraging. A recent concern is the emergence of an invasive, non-native mussel species *Mytella strigata* in the backwaters of Kerala where its rapid proliferation is posing serious problems for normal finfish and indigenous green mussel farming activities. The researchers are looking at various aspects of this development, including its possible impacts on the local ecosystem and native fishery resources. The Rajarshi Tandon Award received by the institute for the Official Language implementation activities is noteworthy. Let us resolve to actively facilitate the development of the marine fisheries in the coming years also.

With best wishes,

**A. Gopalakrishnan**  
**Director**

## About ICAR-CMFRI

The Central Marine Fisheries Research Institute, Kochi, is a premier research Institute under the Indian Council of Agricultural Research, devoted to research and training in marine fisheries and mariculture.

ICAR-CMFRI has three Regional Centres viz., Mandapam Camp, Visakhapatnam and Veraval and eight Research Centres located along the Indian coastline, catering to the marine fishery policy needs of all maritime states of the country.





# ICAR-CMFRI hosts Buyer Seller Meet and Kisan Mela



*Inauguration of the Buyer Seller Meet by Dr. A. Gopalakrishnan, Director, ICAR-CMFRI*

ICAR-Central Marine Fisheries Research Institute hosted a Buyer Seller Meet and Kisan Mela from 14<sup>th</sup> to 16<sup>th</sup> November, 2019. It was jointly organised by Swadeshi Science Movement, ICAR-CMFRI, Ernakulam Krishi Vigyan Kendra and NABARD. Dr. A. Gopalakrishnan, Director, ICAR-CMFRI, Kochi inaugurated the meet. Thousands of visitors, including students and general public, were made aware of a range of produces from primary producers in agriculture and allied areas.

During the Buyer Seller Meet, several farmer producer companies from Kerala, Tamil Nadu and Karnataka found potential buyers to sell their products, including rice, cereals, pulses, vegetable oils, fish, dairy products and numerous value



*Live fish for sale at the Kisan Mela*



added products. The public also could buy products directly from the producers during the meet and wholesale dealers

and major organic purchasers were connected directly to the primary producers helping them to shorten the

market chain. The Kisan Mela counter for selling farmed live fish sold out around 2 tonnes of farmed seabass and tilapia.



*Stall for fruits and fruit products sale by Farmer Producers*



*Public participation in the Kisan Mela*

## Awareness programme for school children

In connection with the 150<sup>th</sup> birth anniversary of Mahatma Gandhi, awareness on *Swachhata Hi Seva* among school students was organised with competitions like skit, fancy dress and quiz, for the students at the Guardian Public School, Puthencruz, Ernakulam. Dr V. Kripa, Head of the Fishery Environment and Management Division of ICAR-CMFRI and Shri Shoji Joy Edison, Subject Matter Specialist of the KVK of ICAR-CMFRI delivered lectures. Prizes were distributed to the winners in the competitions. The Recreation of club of ICAR-CMFRI coordinated the programme.



*Felicitating prize winners*

## Visit of NITI Aayog Committee for promotion of seaweed cultivation in India

A committee constituted by NITI Aayog to prepare a comprehensive roadmap for promotion of seaweed cultivation visited Tamil Nadu during 12<sup>th</sup>-14<sup>th</sup> October, 2019. A preliminary meeting was held under the chairmanship of Dr. K. Gopal, Principal Secretary, Animal Husbandry, Dairying and Fisheries Department, Govt. of Tamil Nadu on 12<sup>th</sup> October 2019. Mr. Jitendra Kumar, IFS, Adviser (NRE), NITI Aayog & Member-Secretary, Dr. A. Gopalakrishnan, Director, Central Marine Fisheries Research Institute (ICAR-CMFRI), Dr. Amitava Das, Director,



*Niti Aayog Team at Mandapam Regional Centre interacting with Director, ICAR-CMFRI*



CSIR-CSMCRI, Dr. G. S. Sameeran, IAS, Director of Fisheries, Govt. of Tamil Nadu, Mr. Abhiram Seth, Managing Director, Aquagri Pvt. Ltd., officials representing Ministry of Environment, Forest & Climate Change, Tamil Nadu Fisheries, Environment & Forest department and scientists from ICAR-CMFRI and CSIR-CSMCRI participated in the meeting. Role of the institute in implementing IMTA activity in the local seaweed farms was highly appreciated by the visiting team.



*Team interacting with workers in seaweed processing*

## Fisheries officials from African Asian countries trained

The institute conducted a 15-day international training-cum-workshop in fisheries and aquaculture for the fisheries officials from 10 member countries of the African Asian Rural Development Organisation (AARDO) from 15<sup>th</sup> to 29<sup>th</sup> October, 2019. Fisheries

officials from Lebanon, Jordan, Iraq, Oman, Morocco, Zambia, Malawi, Mauritius, Malaysia and Sri Lanka attended. Valedictory programme was held on 29<sup>th</sup> October, 2019 with Dr Manoj Nardeosingh, Secretary General of the AARDO as the guest of honour.

He stressed the need for regional cooperation between the AARDO nations to improve the fisheries sector in respective countries and appreciated smooth conduct of the training programme for the third consecutive years at ICAR-CMFRI.



*Participants of the AARDO training programme held at ICAR-CMFRI*

## Constitution Day (Samvidhan Divas - 2019) observed

The Constitution Day was observed on 26<sup>th</sup> November 2019 with much fervour and fanfare in the institute. The celebrations began by reading out the Preamble of the Constitution by all the staff members and research scholars and display of the preamble on the office premises.

A talk on fundamental duties Article 51-A of the Indian Constitution was delivered by legal experts. Dr. V. Kripa and Dr. P. Shinoj also spoke on the occasion. Various programs were listed for the succeeding months.



*Constitution Day celebrations begin at Headquarters*



## Invasive mussel *Mytella strigata* found in backwaters of Kerala

An alien species of mussel, the American brackish-water mussel *Mytella strigata* that are native to Central and South America has established recently in backwaters of Kerala, blocking nets in fish or cage farms. There are reports from the Philippines, Singapore and Thailand, that its population has expanded exponentially in the last two years. *Mytella strigata* were being sold in the local market at Thailand with price of approximately 1.00 to 1.40 USD which is similar to Asian green mussel *Perna viridis* of the same size. The species has recently become widespread in parts of Ashtamudi, Kayamkulam and Vembanad Lakes with densities reaching 1232 per m<sup>2</sup> in Ashtamudi Lake. It is a potential threat to lucrative bivalve aquaculture as they can out-compete native mussels. Mytilids typically are filter feeders with a



American brackish-water mussel *Mytella strigata*

high fecundity, rapid growth rate, and are tolerant of a wide range of environmental conditions. These attributes make them ideal for aquaculture, but also potentially an invasive species posing threat to native species.

It is the first time these mussels have been reported in the Indian waters. While it is not clear how exactly these mussels arrived in Indian waters, they could have come via ballast water during



Fig. 2. A clump of *Mytella strigata* from the natural bed at Ashtamudi Lake

ships berthing at Cochin Harbour. Scientists of the Molluscan Fisheries Division have collected samples from these locations for biology, molecular taxonomy and nutritional studies.

(Reported by: Molluscan Fisheries Division)

## Popularizing the intercropping technique of marine finfish in shrimp ponds along Gujarat coast

In continuation to the successful development of sustainable intercropping of marine finfishes in the inland shrimp culture ponds by the Veraval Regional Centre of ICAR-CMFRI, the shrimp farmers in the region have approached the institute to carry forward the technology in the region. Two aquafarms have signed an MoU to impart the technology of intercropping silver pompano, *Trachinotus blochii* in coastal shrimp ponds in the Saurashtra region of Gujarat. In this context, 5000 number of silver pompano seeds were transported from Mandapam for standardization trials. After nursery rearing in FRP tanks, seeds were stocked in the shrimp ponds of 12 ppt salinity after proper acclimatization. Two hapas (2 x 2 x 3 m) installed in the



Launch of hapa cages for finfish intercrop in shrimp ponds

grow out farm of shrimp *Litopenaeus vannamei* was used for the demonstration.

(Reported by: Divu D., Suresh K M, Vinaya K Vase., Kapil S S., Rajan Kumar, Abdul Azeez, Tarachand Kumawat, Mitesh Bhint, Mayur Tade, Rajid M, Veraval Regional Centre)



## Report on the occurrence of Black lip pearl oyster from Gulf of Mannar

The black-lip pearl oyster, *Pinctada margaritifera* was spotted from Gulf of Mannar after a long gap of three decades. Ten numbers of *P. margaritifera* were collected along with *P. fucata* in the Kayalpattinam landing centre off Tuticorin in July 2019 on different days. Their size ranged from 50 -135mm and weight range from 15 to 242 g.

(Reported by C.P.Suja and D. Linga Prabu, Tuticorin Research Centre)



Pearl oysters spotted after 3 decades in Gulf of Mannar

## Odisha fisherman land high value croakers

Seven numbers of spotted croaker *Protonibea diacanthus* locally called Telia (in Oriya) were landed by multiday long liner at Atharabanki Landing Centre (Paradeep) on 17<sup>th</sup> September, 2019. Auction price at the landing centre ranged from ₹ 1,100-7,500/kg body weight based on the sizes and sexes. After

auctioning fishes were sent to Howrah in West Bengal in iced condition and marketed with price ranges from. ₹ 3,300-10,200/kg body weight. Air bladder and gill rakers were separated and sent to Mumbai for export at a rate of ₹ 80,000 and ₹ 40,000 per kilogram respectively. Fish meat was marketed at

a rate of ₹ 800-1400/kg, locally. The dried air bladders is a source of collagen in food industry, and used to make isinglass for purification of wine and beer.

(Reported by Dr. Subal Kumar Roul and Shri Prakash Chandra Das, Puri Field Centre)

## Algal bloom in Gulf of Mannar causes fish mortality

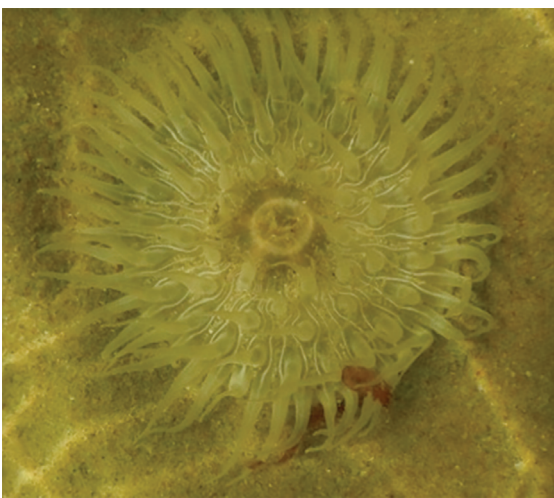
On 10<sup>th</sup> September 2019, a deep green bloom started along the coast of Gulf of Mannar stretching from Kunthukkal to Vedhalai (about 10 kms). The algal crashing started on 11<sup>th</sup> and 12<sup>th</sup> September, 2019 which resulted in mass mortality of about 20 fish groups mostly associated with coral reefs. On 13<sup>th</sup> and 14<sup>th</sup> the bloom moved through the Pamban Pass and entered Palk Bay but no fish mortality was reported. The

bloom water samples and dead fish samples were collected from different locations of Gulf of Mannar. The affected the ichthyo-diversity during bloom period were identified, quantified and recorded. The quantity of algae in the stomachs of surgeonfish was found high compared to pearl spot and parrot fishes and certain fish groups had not at all ingested any algae. Shellfish and elasmobranchs were not found among the dead fish in the

affected area. The algal species as cause of fish mortality was identified as dinoflagellate, *Noctiluca scintillans* whose individual cells ranged between 400 to 900 micron in size with cell density measured at 5700 to 8000 cells litre.

(Reported by Sankar M, Remya L, Thirumalaiselvan S, Rameshkumar P, Tamilmani G, Sakthivel, M., Anikuttan K.K, Sikkander Batcha S.M, Krishnaveni N, Munirasu S., and Jayakumar, R., Mandapam Regional Centre)

## Pearly sea anemone reported from Palk Bay



Among the 54 species of sea anemone reported from the Indian waters, the pearly sea anemone *Paracondy lactissinensis* has so far been reported only from Maharashtra, Karnataka, Odisha and West Bengal coast. This is the first report of its occurrence in the Palk Bay at 9° 12' 11.2"N; 79° 23' 45.7"E. The habitat of this anemone is intertidal sandy and sandy mud area.

(Reported by Dr. R. Saravanan, Mandapam Regional Centre)



## OBITUARY

**D**r. P.S.B.R. James, Former Director, ICAR-CMFRI passed away on 22.08.19. He was 85 years old.

He was born in Bhimavaram, Andhra Pradesh on 10.02.1934. After graduation in Zoology from Andhra University, he acquired Master's Degree and doctorate in Fishery Biology from Banaras Hindu University. He was awarded a D.Sc degree in 1986, by the same university. Dr. James served as Director ICAR-CMFRI during the period from 02.08.1985 to 28.02.1994, until superannuation. Earlier, he had served as ADG (Fisheries) at ICAR Headquarters and Professor & Head of Department (Fishery Biology) at College of Fisheries, Mangaluru. He served as Chairman/Member in several important National and State Committees on subjects of marine fisheries development and policy support. In the international arena, he served as National Co-ordinator of the FAO/UNDP Regional Seafarming Research, Development and Demonstration Project. He was instrumental in initiating and strengthening the research and associated work on seafarming and sea ranching of marine fishes and shrimps. He was member of the FAO Consultation for field identification of fishes of Western Indian Ocean. His most significant research contributions have been on the fishery resources of ribbonfish and silverbellies.



## Training Programmes

### National Symposium on Indian Oil Sardine

**T**he first National Symposium on 'The enigmatic Indian Oil sardine' was held on 6<sup>th</sup> August, 2019 at ICAR-CMFRI, Kochi. The Indian oil sardine (IOS), *Sardinella longiceps* is the largest single fish species contributing to the marine fish landings of the country. It is highly valued as a table fish as well as an important raw material for the fishmeal industry of the country. The landings of IOS show high

annual fluctuations and the recent investigations by the Pelagic Fisheries Division had revealed that the environmental factors and climate change have an important bearing on the fishery trends. To enable an understanding and development of a fishery prediction model for the IOS, an exchange of scientific information on the oceanographic aspects and fishery trends

was essential and facilitated through the 6 invited presentations from various scientific organizations such as ICAR-CIFT, SAC, NIO, IITM and INCOIS, at the symposium. The programme was co-ordinated by Dr. A. Gopalakrishnan, Director, ICAR-CMFRI with Dr. Prathibha Rohit, Head, Pelagic Fisheries Division as Convenor.





## Sea Cage Farming Demonstration programme launched

Under blue revolution scheme, the National Fisheries Development Board (NFDB), Hyderabad has sanctioned a sea cage farming demonstration programme entitled "Extensive demonstration of technology of open-sea cage farming of marine finfishes all along the Gulf of Mannar and Palk Bay" to the Mandapam Regional Centre of ICAR-CMFRI. The programme seeks to empower fishermen community by encouraging them to take up sea cage farming. 100 Numbers of 6 meter Diameter HDPE cages were sanctioned with 60% NFDB subsidy and 40% beneficiary's contribution. As an initiation of this programme, 20 sea cages and 900 numbers of cobia fish seeds per cage were distributed to the beneficiaries on 27<sup>th</sup> July 2019 by Mr. K. Veera Raghava Rao I.A.S. District Collector of Ramanathapuram in the presence of



Comdt. M. Venkatesan, Commanding officer, Indian Coast Guard Station, Mandapam, Mr. K. Muralidharan, Member, Institute Management

Committee ICAR-CMFRI, Dr. R. Jayakumar, Scientist-in-Charge, ICAR-CMFRI Mandapam Regional Centre and officials of State Fisheries Department.

## Training under the SCSP programme conducted

Institute extended scientific, technical and financial support in oyster farming for 40 Scheduled Caste families in Kodungallur Municipality in Pullut Village, Thrissur under the Scheduled Caste Sub Plan (SCSP) programme of the Indian Council of Agricultural Research (ICAR), Govt. of India. This is the first venture in oyster farming in the area. Inaugurated by Kodungallur Municipal Chairman, Mr. K. R. Jaithran on 30<sup>th</sup> November, 2019

training programme was organized by the team from Molluscan Fisheries Division. Dr. K. S. Mohamed, Head, Molluscan Fisheries Division and Dr. K. Madhu, Chairman, SCSP project in ICAR-CMFRI, were present. For equipping them to set up oyster farming units (racks of 5m x 5m) in brackishwater, guidance on site selection, ren making and harvesting procedures was arranged. Under the guidance and supervision of

ICAR-CMFRI team it is expected to help around 40 beneficiaries to become entrepreneurs in oyster farming.

Oyster farming training and setting of oyster farms in Dakshina Kannada, Karnataka was also organised during 21<sup>st</sup> to 26<sup>th</sup>, October 2019 at Mulki with the involvement of the fisherwomen co-operative society 'Mulki Mahila Meenugarara Prathamika Sahakari Sangha' by the Mangalore Research Centre.



*Inauguration of the training programme on oyster farming under SCSP at Kochi*



*Training under SCSP at Mandapam*



Mandapam Regional Centre also arranged a training programme on "Mariculture Technologies for Diversified Livelihood" during 19<sup>th</sup>-21<sup>st</sup> November, 2019 under the SCSP programme. The training programme was inaugurated by Mr. K. Muraleedharan, Member Institute

Management Committee of ICAR-CMFRI. Sixty beneficiaries from Puthukudi, Thondi village participated in the Hands on training in marine ornamental fish seed rearing, seaweed farming and sea cage farming. Tuticorin Research Centre conducted a Hands-on

training program on Sea cage culture , for selected 25 beneficiaries of Melaalangrathatu, Thoothukudi District, under the SCSP, held on 28-31 December 2019. Dr. P. Pravin, Assistant Director General (Marine Fisheries), ICAR inaugurated the training program.

## Workshop on Micro-level Plastic Waste Management

Workshop on Development of Action Plan for Blue Green Brigade -Participatory program on Micro-level Plastic Waste Management was organised by the institute on 23<sup>rd</sup> November 2019. An outcome of the

project on Development of Micro level Environment Management Plan for coastal ecosystems, the concept of Blue Green Brigade (BGB) aims to promote People's Participation through Volunteering for development of Good

Management Practices for plastic waste in households and coastal communities. More than 65 members participated in the workshop organised by Dr. V. Kripa, Head, Fishery environment Management Division.

## Winter School on Mariculture Technologies

ICAR Sponsored Winter School on 'Mariculture Technologies: Principles and Practices to augment the seafood production in India' was organized from 6<sup>th</sup> to 26<sup>th</sup> November, 2019 at

Mandapam Regional Centre. The Programme was inaugurated by Dr. A. K. Kumaraguru, Former Vice Chancellor, Manonmaniam Sundaranar University. 25 participants attended the programme. Dr.

M. Sakthivel, Course Director. Dr. G. Tamilmani, Dr. P. Rameshkumar, Course Co-ordinators and Mr. M. Sankar, Dr. B. Johnson and Dr. K. K. Anikuttan co-ordinated the Winter School.

## Sea cages with IMTA technology promoted among fish farmers

Under the project National Innovations in Climate Resilient Agriculture (NICRA) - Marine Fisheries - Tuticorin Research Centre organized a

program "Launching of Sea cages for conducting Integrated Multi-tropic Aquaculture (IMTA) - A Climate Change Resilient Farming Practice' on 24<sup>th</sup>

September, 2019 to the fish farmers of Mullakadu coast of Thoothukudi District.

## Skill development programmes for fish farmers

Under the NFDB Skill Development Programme, training programme on "Open Sea Cage Farming and Mariculture" was successfully conducted by Calicut Research Centre at Punjakkad (Payyanur,

Kannur District) from 7<sup>th</sup> to 9<sup>th</sup> August, 2019. 22 fishermen from Kannur district participated in the Hands-on training imparted on cage fabrication and installation. Tuticorin Research Centre

organised Hands-on training on the production of value added products from seaweeds during 27<sup>th</sup> to 29<sup>th</sup> November 2019.

## Training under TSP programme in Odisha

Hands-On training program on grow out culture of grey mullet was organised from 22<sup>nd</sup> to 24<sup>th</sup> November, 2019 at Jugadiha village, Baliapal, Balasore,

Odisha under Tribal Sub-plan by the Puri Field Centre. 16 members of the Bhumija Tribe participated in the training on open sea cage fabrication, mooring, installation

and good management practices for coastal saline ponds. Dr. Subal Kumar Roul, Shri Rajesh Kumar Pradhan and Dr. Biswajit Das co-ordinated the programme.



## Artificial Reef fabrication works in Gujarat

A consultancy project titled 'Artificial Fish Habitat Based Marine Ecosystem Restoration in the Inshore Areas off Bhadreswar, Kutch District, Gujarat' sponsored by the Department of Fisheries, Govt. of Gujarat has been initiated by Veraval regional centre.

(Reported by : Kapil S Sukhdhane, Bhargav Bhatt, Divu D & Sreenath K R, Veraval Regional Centre)



Artificial reef modules kept ready at Gandhidam, Kutch, Gujarat

## Awareness campaign against 'Single use plastic'

Reduce use of plastic and total abolition of 'Single use plastic' (SUP) was the major theme of awareness program for "Swachhata Hi Seva" programme at Mangalore Research Centre. The immediate need to use alternative to SUP was campaigned and demonstrated in various places including fisheries harbours. Cloth bags and steel containers were projected as alternatives for single use plastics. Scientist and staff members of the Research Centre actively participated in the awareness campaign.



## Exhibitions

Puri Field Centre of ICAR-CMFRI participated in an exhibition organised by ICAR-CIFA, Bhubaneswar on the occasion of 4<sup>th</sup> Pillay Aquaculture Foundation Congress held during 15-17 November, 2019. Sri Pratap Chandra Sarangi, Hon'ble Minister of State, Animal Husbandry, Dairying & Fisheries and Micro, Small and Medium Enterprises, GOI along with Dr. J. K. Jena, Deputy Director General (Fishery Science and Animal Science), ICAR, New Delhi and several dignitaries visited the stall.

An exhibition stall was put up to display of the products/services of the Institute in connection with the National conference on "Efficient Value Chain in Fisheries & Aquaculture" on 28<sup>th</sup> September, 2019 at Bhubaneswar, Odisha. Dr. Subal Kumar Roul, Mr. Rajesh



Dignitaries at the exhibition stall of ICAR-CMFRI on the occasion of Pillay Aquaculture Foundation Congress

Kumar Pradhan and Dr. Biswajit Dash participated actively in the event organised by SMART AGRIPPOST in association with ICAR-CMFRI, ICAR-

CIFRI, NABARD and Aquaviva. Ten progressive farmers and fishers were also facilitated to attend the conference as delegates.



## International workshop on elasmobranchs



Participants of the FAO collaborated elasmobranch project workshop with Dr. A. Gopalakrishnan, Director, ICAR-CMFRI

An International workshop "Global Expert meeting on collection and reporting on use, market chain information for shark and ray commodities" was held during 24<sup>th</sup>-27<sup>th</sup> July, 2019 at ICAR-CMFRI, Kochi as part of a collaborative research project between the institute and Food and Agriculture Organisation, Rome. Dr. P. U.

Zacharia and Dr Shoba Joe Kizhakudan, of the Demersal Fisheries Division coordinated the international meet attended by representatives from FAO, UK, UAE, Australia, Mexico, Argentina, Indonesia, Malaysia, Sri Lanka, Nigeria, Somalia, Myanmar and Namibia and scientists of Demersal Fisheries Division working on elasmobranchs. Dr. Kim

Friedman, Senior Fishery Resources Officer, FAO led the discussions which focused on developing a solid frame work for well-informed guidelines, that all countries can use to improve data collection and mapping of value chains to promote sustainable fishing and trade of this vulnerable marine resource group.

Marking the 'International Whale Shark Day', the Calicut Research Centre organised an awareness programme 'Conservation of Protected Elasmobranchs' at Ponnani Fishing Harbour, Malappuram District, Kerala on 30<sup>th</sup> August, 2019. Dr. P.K. Asokan, Scientist-in-charge, Calicut Research Centre welcomed various stakeholders Pamphlets entitled "Save the Whale Shark" prepared by ICAR-CMFRI were officially released, followed by a brief presentation on 'Marine Protected Animals' by Dr. K. Vinod of Marine Biodiversity Division.

A stakeholders' meeting on the trade



Presidential address by Dr. P. U. Zacharia, Head, Demersal Fisheries Division

of sharks and rays was also held on 24<sup>th</sup> September, under a FAO-CMFRI

Collaborative Project.

(Reported by Calicut Research Centre)

## International LenFest Ocean Programme Workshop held

The third review meeting of the International Collaborative LENFEST funded research project entitled "Benchmarks for Ecosystem Assessment: Indicators for Practical Ecosystem Based Fisheries Management" was held at ICAR-CMFRI, Kochi during 29<sup>th</sup> October to 1<sup>st</sup> November 2019. The meeting was attended by scientists and researchers from four participating countries Australia, U.S.A, Chile and India. Different advanced ecosystem based models especially EwE, MICE and Size Spectrum models developed for the



Participants of the LenFest Project workshop

test regions in each countries were reviewed and modified in the review

meeting and various ecosystem indicators to be considered were discussed.



## Awards & Recognitions

Shri. M. Sankar, Scientist was awarded Netaji Subhas- ICAR International Fellowship (NS-ICAR-IF) for the year 2019-20

Team from ICAR-CMFRI, Kochi won the Overall Championship in the ICAR South Zone Sports Meet 2019 held during 4-8 November in Kochi. The team was enthusiastically felicitated on their success by the institute.



Felicitatation of the sports contingent of ICAR-CMFRI at headquarters

Mr. Mohammed Koya K., scientist, Pelagic Fisheries Division was elected as the Vice Chair of the Indian Ocean Tuna Commission (IOTC)-Working Party on Ecosystem and Bycatch (WPEB) for the biennium 2020 and 2021.



Ms. E. M. Chandra prajnadarshini, Scientist Chennai Research Centre was awarded Ph.D degree from ICAR-CIFE, Mumbai for her thesis entitled "Biology and stock assessment of *Saurida undosquamis* (Richardson, 1848) along Mumbai coast".



Mr. Loveson Edward L, Scientist, Vishakapatnam Regional Centre was awarded Ph.D degree from the Department of Zoology, Andhra University for his thesis entitled "Some studies on rotifer, *Brachionus rotundiformis* Tschugunoff, 1921 in Bay of Bengal off Visakhapatnam, Andhra Pradesh, India".



## MoUs signed

The Marine Biotechnology Division is currently working on the evaluation of black soldier fly larvae (BSFL) as a sustainable fish feed ingredient. An MoU was signed on 15<sup>th</sup> November, 2019 by the Institute with Exocycle, India for research collaboration to develop fish feeds using BSFL.

Veraval Regional Centre has developed a sustainable intercropping technology for farming of marine finfish in coastal shrimp ponds and the farmer participatory model attracted many shrimp farmers in Saurashtra region of Gujarat. It allows utilization of inter-cropping time period and double's the farmer's income. The MOU signed on 23<sup>rd</sup> August, 2019 by the Veraval Regional Centre aims to develop the culture/farming protocols of the species like silver pompano, groupers and seabass in the coastal shrimp ponds with two progressive aquaculture firms.



## Quinquennial Review Team Meets

The Quinquennial Review Team (QRT) of ICAR-CMFRI for the period 2014-19 headed Dr. Satheesh C. Shenoi, Director INCOIS, Hyderabad had their first meeting in the institute headquarters on 20 December, 2019. Dr. A. Gopalakrishnan, Director, made an elaborate presentation on the achievements of the institute during the

report period. The QRT members include Dr. Madan Mohan Director, Punjab state Fisheries Development Board and Former ADG (Marine Fisheries) ICAR, New Delhi, Dr. Mini Raman, Head, Marine Ecosystem Division, Space Applications Centre, Ahmedabad, Dr. Pranab Mukhopadhyay, Professor and Head, Department of economics, Goa

University and Dr. P. Gopikrishna, Former Head, Nutrition, Genetics and Biotechnology Division, ICAR-CIBA, Chennai with Dr. Imelda Joseph, Head Mariculture Division, ICAR-CMFRI as Member Secretary. Further, the team will be visiting Visakhapatnam, Veraval, Mandapam, Mangalore and Vizhinjam Regional Centres of ICAR-CMFRI.



QRT holds discussions with Dr. A. Gopalakrishnan, Director, at Headquarters

Dr. Trilochan Mohapatra, Secretary, DARE and Director-General, ICAR visited the Madras Research Centre on 7<sup>th</sup> August, 2019 and interacted with staff.

*Dr. Mohapatra, DG,  
ICAR on his visit to Madras  
Research Centre*



## Recreation Club Activities



Onam Celebrations at Headquarters



New Year 2020 Celebrations at Mandapam Regional Centre



## ICAR-CMFRI wins Rajarshi Tandon Award

Rajarshi Tandon Award introduced by ICAR for the Excellent Official Language activities among the Institutes situated in 'C' Region for the year 2017-2018 was bagged by ICAR-CMFRI. It has won the same recognition on nine occasions earlier. The Award was



Dr. A. Gopalakrishnan, Director receiving the Rajarshi Tandon award

distributed during the ICAR Foundation Day celebrations organized in New Delhi on 16<sup>th</sup> July, 2019. Dr. A. Gopalakrishnan, Director, ICAR-CMFRI and Mrs. E. K.

Uma, Chief Technical Officer (Hindi) received the Award from Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR.

## Hindi Fortnight Celebration 2019

Hindi Fortnight 2019 was celebrated during 13 to 28 September, 2019 with various programmes at Headquarters as well as the Regional Research Centres. At the valedictory function presided by Dr. A. Gopalakrishnan, Director, ICAR-CMFRI, Shri N. Jayasankar, IRS, Commissioner of Income Tax was the Chief Guest. Shri Prashant Kumar, Chief Finance & Accounts Officer read out a Message of Hon'ble Minister of Agriculture and Farmers' Welfare. Prizes were given to



Rajbhasha Rolling Trophy being received by team from Establishment Section

the winners of Hindi competitions and Hind Incentive Schemes. Rajbhasha Rolling Trophy for getting highest points

in the competitions conducted during Hindi Fortnight was won by the Establishment Section.

### KVK News

## Pearl spot seed production technology training conducted

KVK conducted two batches of two days each training programme on Karimeen (Pearl spot) seed production technology on 2-3<sup>rd</sup> July 2019 and 29<sup>th</sup>-30<sup>th</sup> August, 2019. The programme covered pond preparation, brood stock selection, breeding, feeding, seed collection, packing and transportation and

experience sharing by previously trained farmers. Visits to two seed production farms and interactions with farmers was arranged. With conduct of such training programmes, KVK aims to develop fish seed production entrepreneurs and extending market support through a buy

back arrangement. This will enhance local production to meet the ever increasing demand of authentic pearl spot seeds. KVK is currently marketing Pearlsport seeds produced by similarly trained farmers from previous batches. This arrangement also enhances their income.

## Jalshakti Abhiyan 2019 in Lakshadweep

As part of the national drive for water conservation by the Govt. of India, the KVK-Lakshadweep observed the *Jalshakti abhiyan* on awareness of conservative use of water for agriculture and allied activities with a wide participation of school children, farmers, public and official of the administration at Kavaratti Island,

Lakshadweep. The week long awareness programmes and competitions for the school children on the theme "Agriculture and water conservation in Lakshadweep", training programmes for the farmers and women self-help groups were held during the last week of September, 2019. It culminated with the the Kisan Mela held

on 2<sup>nd</sup> October, 2019 inaugurated by Mr. Mohammed Faizal, Honourable Member of Parliament, Lakshadweep in the august presence of Mr. Om Prakash Mishra, Secretary (Agriculture and Fisheries), U. T. of Lakshadweep and Mr. B Hassan, President and Chief Councillor, District Panchayath, Lakshadweep.

## Soil Health Card for Lakshadweep farmers

As a pilot programme of the KVK, Lakshadweep in association with the Kerala Agricultural University (KAU) Rice Research Station (RRS), Vyttila, issued Soil Health Cards (SHC) to the farmers at

Kavaratti. Soil from the 15 selected farmers' sites were collected as per the protocol and analysed. The first Soil Health Card issued in Lakshadweep was given away by Mr. O. P. Mishra, Secretary

(Agriculture), U.T. of Lakshadweep during the inaugural programme of the *Jalshakti Abhiyan*, 2019 on 2<sup>nd</sup> October, 2019. This will help in farming to be done scientifically in the islands.



- **Dr. A. Gopalakrishnan**, Director, attended 91<sup>st</sup> ICAR Foundation Day celebrations and ICAR Award Ceremony followed by a Innovative Farmers Conclave and SMD level meeting at New Delhi on 16<sup>th</sup> & 17<sup>th</sup> July, 2019.

Attended meeting with Space Applications Centre, Ahmedabad on 24<sup>th</sup> August, 2019.

Attended meeting conducted by Department of Fisheries, Govt. of Kerala on 25<sup>th</sup> October, 2019 regarding Ornamental fish industry.

Attended the meeting conducted by NITI Aayog on seaweed cultivation and utilization at Chennai and visited farming sites at Mandapam on 13<sup>th</sup> and 14<sup>th</sup> October, 2019.

Attended meeting for finalization of AICRP/AINP Review Committee Recommendation chaired by DG, ICAR at New Delhi on 1<sup>st</sup> November, 2019.

Attended the Institute Management Committee Meeting at Mandapam Regional Centre of ICAR-CMFRI from 6<sup>th</sup> to 8<sup>th</sup> December, 2019.

Attended stakeholders meeting with State Fisheries Minister at Mangalore Research Centre from 13<sup>th</sup> to 14<sup>th</sup> December, 2019

Attended the NICRA Meeting at New Delhi on 18<sup>th</sup> December, 2019.

- **Dr. K. S. Mohamed** attended State Fisheries Management Council (SFMC) meeting at Thiruvananthapuram on 4<sup>th</sup> July, 2019.

Attended Clam Council Meeting chaired by District Collector, Kollam Collectorate on 1<sup>st</sup> August, 2019.

Attended a meeting on ecorestoration of Vembanad Lake at the Office of the Deputy Director of Fisheries, Alappuzha on 5<sup>th</sup> September, 2019.

- **Dr. Prathibha Rohit**, attended 12<sup>th</sup> meeting of the Working Group constituted for monitoring and review of implementation of IOTC resolution at New Delhi on 2<sup>nd</sup> September, 2019.

Attended XXVI meeting of the Regional committee No VIII at Bengaluru during 6<sup>th</sup>-7<sup>th</sup> September, 2019.

Attended one day Consultative meeting with project Executing agencies organised by the National Centre for Coastal Management for world bank aided programme Enhancing coastal and Ocean Resource efficiency Programme (ENCORE) on 25<sup>th</sup> October, 2019 at Bengaluru.

- **Dr. Dineshababu A. P.** attended meeting on "Development of a centralized Portal and Mobile application for National Wetland Management" held at Space Application Centre, Ahmedabad on 21<sup>st</sup> August, 2019.

- **Dr. Prathibha Rohit and Dr. Dineshababu A. P.** attended meeting on "Data Requirements from Fisheries Sector" convened by NFDB, Hyderabad on 1<sup>st</sup> August, 2019.

- **Dr. P. Laxmilatha**, attended XXVI meeting of ICAR Regional Committee at Indian Institute of Horticulture Research, Bengaluru during 6<sup>th</sup>-8<sup>th</sup> September, 2019.

Attended a meeting in Directorate of Fisheries, Nandanam, Chennai in connection with initiation of project on Artificial reefs to be deployed along Chennai, Tiruvallur and Kancheepuram on 9<sup>th</sup> September, 2019.

- **Dr. R. Narayanakumar**, attended the 86<sup>th</sup> Institute Management Committee (IMC) Meeting held at Mandapam Regional Centre on 7<sup>th</sup> December, 2019.

- **Dr. Shoba Joe Kizhakudan**, was deputed to the 'Capacity Development Workshop on Stock Status Assessment and Estimation of SDG Indicator 14.4.1 for the Asia Pacific Region' jointly organized by Food and Agriculture Organization (FAO) of the United Nations and South East Asian Fisheries Development Center (SEAFDEC), during 2<sup>nd</sup>-4<sup>th</sup> October, 2019, at Bangkok, Thailand.

Deputed to participate in the 'Regional Consultation to Discuss Development of a Regional Plan of Action to Combat IUU Fishing', jointly organized by the Food and Agriculture Organization (FAO) of the United Nations, Rome and the Bay of Bengal Programme Inter-Governmental

Organisation (BOBP-IGO) held in Chennai during 14<sup>th</sup>-15<sup>th</sup> October, 2019.

- **Dr. Rekha J. Nair**, attended the "IUCN Red List workshop to assess the conservation status of western Indian Ocean Fishes for inclusion on the IUCN Red List of Threatened Species" held at Duran, South Africa during 12<sup>th</sup>-16<sup>th</sup> August, 2019.

- **Mr. Mohammed Koya K.** attended the workshop on "identification of regions in the IOTC convention area to inform the implementation of the Ecosystem Approach to Fisheries Management" organized by the Indian Ocean Tuna Commission (IOTC) at La reunion island (FRANCE OT) on the 30<sup>th</sup> August to 1<sup>st</sup> September, 2019.

Attended the 15<sup>th</sup> Indian Ocean Tuna Commission - Working Party on Ecosystem and Bycatch (WPEB15) held in La Reunion (FRANCE OT) during 3<sup>rd</sup>-7<sup>th</sup> September, 2019.

Attended the Leadership Training Course on Fisheries Resource Management (LTCFRM) 2019 organised by the Overseas Fishery Cooperative Foundation of Japan (OFCF) during 6<sup>th</sup> November to 9<sup>th</sup> December, 2019 at Tokyo, Japan.

- **Dr. Rajesh K. M.** participated in the FAO International Symposium on Fisheries Sustainability: "Strengthening the Science - Policy Nexus" at Rome, Italy" during 18<sup>th</sup>-21<sup>st</sup> November, 2019.

- **Dr. R. Jeyabaskaran** attended the 'Second Task Force Meeting' constituted with reference to the "Marine Mammal bycatch and the related international obligations" held on 5<sup>th</sup> July, 2019 in Department of Fisheries at Krishi Bhawan, New Delhi.

- **Dr. Shelton Padua**, attended a workshop on 'Inventor, User & Industry Meet on Coral Reef Monitoring Robot' on 27<sup>th</sup> September, 2019 at CSIR - National Institute of Oceanography, Goa.

- **Dr. G.B. Purushottama**, attended training program on Emotional Intelligence at workplace for Scientist and Technologists, held from 5<sup>th</sup>-9<sup>th</sup> August, 2019 at Centre for Organization Development, Hyderabad, Telengana.



<b>PROMOTIONS</b>			
<b>Name &amp; Designation</b>	<b>Promoted as</b>	<b>Centre</b>	<b>w.e.f</b>
Mr. Prashant Kumar, Senior Finance & Accounts Officer, ICAR Research Complex for NE Region Barapani	Chief Finance & Accounts Officer	ICAR-CMFRI, Kochi	15.07.2019
Mr. Raghunadhan K., Assistant Administrative Officer, ICAR-DMAPR, Boriavi, Anand, Gujarat	Administrative Officer	ICAR-CMFRI, Kochi	09.08.2019
Mr. Ratan P. Naik, Lower Division Clerk	Upper Division Clerk	Karwar Research Centre	29.07.2019 AN
Mr. W. Sathyawan Neelraj, Upper Division Clerk	Assistant	Tuticorin Research Centre	30.07.2019
Mrs. Annies Mary Paulose, Upper Division Clerk	Assistant	ICAR-CMFRI, Kochi	31.07.2019
Mr. Sunil Raj K.S., Upper Division Clerk	Assistant	ICAR-CMFRI, Kochi	02.09.2019
Mrs. Bindu Sanjeev, Personal Assistant	Private Secretary	ICAR-CMFRI, Kochi	01.08.2019
Mrs.. S. Anjali Devi, Lower Division Clerk	Upper Division Clerk	Madras Research Centre	21.08.2019 AN
Mr. Biju George, Skilled Support Staff	Lower Division Clerk	ICAR-CMFRI, Kochi	02.09.2019
Mr. R. Kumaran, Skilled Support Staff	Lower Division Clerk	Madras Research Centre	03.09.2019
Mrs. Vijayalaxmi Y. Gamanagatti, Skilled Support Staff	Lower Division Clerk	Karwar Research Centre	03.09.2019
Mr. S. Srinivasulu, Skilled Support Staff	Lower Division Clerk	Visakhapatnam Regional Centre	11.09.2019
<b>TRANSFER</b>			
<b>Name &amp; Designation</b>	<b>From</b>	<b>To</b>	<b>w.e.f.</b>
Mr. Panchakarla Nagaraju, Technician	Visakhapatnam Regional Centre	Narsapur Field Centre	01.07.2019
Ms. Menaka Das, Technician	Visakhapatnam Regional Centre	Puri Field Centre	01.07.2019
Mr. Digambar Suresh Kumbhar, Technician	Ratnagiri Field Centre	Mumbai Research Centre	01.08.2019
Mr. Shrikrishna Pandurang Hotekar, Technician	Alibag Field Centre	Ratnagiri Field Centre	01.08.2019



Mr. Mahendra Pandit Sonawane, Technician	Ratnagiri Field Centre	Goa Field Centre FC	01.08.2019
Mr. Suraj Surendra Kalgutkar, Skilled Support Staff	Goa Field Centre	Karwar Research Centre	01.08.2019
Mr. Jithesh P.T., Skilled Support Staff	Vizhinjam Research Centre	ICAR-CMFRI, Kochi	01.08.2019
Mr. V. Anand, Skilled Support Staff	Mandapam Regional Centre	Vizhinjam Research Centre	19.07.2019
Mr. M. Saravanakumar, Skilled Support Staff	Mumbai Research Centre	Mandapam Regional Centre	24.07.2019
<b>RELIEVED ON LIEN</b>			
Name	Designation	w.e.f	Centre
Mrs. Ramya M.	Assistant	27.07.2019	ICAR-CMFRI, Kochi
<b>VOLUNTARY RETIREMENT</b>			
Name	Designation	w.e.f	Centre
Mrs. C. Devaki	Assistant	10.07.2019	ICAR-CMFRI, Kochi
Mrs. P. Geetha	Assistant Chief Technical Officer (Library)	01.09.2019	ICAR-CMFRI, Kochi
<b>RESIGNATION</b>			
Name	Designation	w.e.f	Centre
Mr. Sujith Kumar	Skilled Support Staff	21.09.2019	Mangalore Research Centre
<b>INTER-INSTITUTIONAL TRANSFER</b>			
Name & Designation	From	To	w.e.f.
Dr. V. R. Suresh, Principal Scientist	ICAR-CIFRI, Barrackpore	ICAR-CMFRI, Kochi	05.12.2019
Dr. T. Senthil Murugan, Senior Scientist	Karwar Research Centre ICAR-CMFRI	ICAR-CIBA, Chennai	07.12.2019
Ms. Priyanka Kumari, Assistant	Mumbai Research Centre ICAR-CMFRI	ICAR-National Research Centre for Grapes, Pune	07.11.2019
<b>MEETINGS HELD</b>			
2 <sup>nd</sup> Meeting of 14 <sup>th</sup> IJSC Meeting held on 23 <sup>rd</sup> October, 2019 at ICAR-CMFRI, Kochi.			
The 86 <sup>th</sup> Institute Management Committee (IMC) Meeting of ICAR-CMFRI was held at its Mandapam Regional Centre on 7 <sup>th</sup> December 2019.			



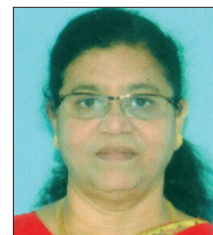
## RETIREMENTS ON SUPERANNUATION



**Dr. G. Maheswarudu**  
Principal Scientist  
31.07.2019  
ICAR-CMFRI, Kochi



**Mr. K. N. Muraly**  
Private Secretary  
31.07.2019  
ICAR-CMFRI, Kochi



**Mrs. B. Koncies Mary**  
Senior Technician  
31.07.2019  
Tuticorin Research Centre



**Mr. Ladani Dhirajlal Jamnadas**  
Skilled Support Staff  
31.07.2019  
Veraval Regional Centre



**Dr. M. Sivadas**  
Principal Scientist  
31.10.2019  
Madras Research Centre



**Mr. N. Boominathan**  
Senior Technical Assistant  
31.10.2019  
Mandapam Regional Centre



**Mr. B. V. Makadia**  
Technical Officer  
31.12.2019  
Jamnagar Field Centre



**Mr. M. Radhakrishnan**  
Senior Technician  
31.12.2019  
ICAR-CMFRI, Kochi



**Mr. P. K. Purushan**  
Canteen Attendant  
31.12.2019  
ICAR-CMFRI, Kochi



## OBITUARY

**Dr. Vidya Jayasankar**  
Principal Scientist  
28.08.2019  
Madras Research Centre







*Cadalmin™ AHe, a nutraceutical product developed from seaweeds by ICAR-CMFRI*



## cadalmin

CMFRI Newsletter

Cadalmin, the CMFRI Newsletter is a quarterly publication of the Central Marine Fisheries Research Institute, Kochi. The publication gives an insight into the major events of the quarter, besides highlighting the salient findings in the research front and dissemination of technological know-how to the farming community.